In re Patent Application of
OLOFSSON ET AL.
Serial No. **09/582,637**
Filed: **OCTOBER 20, 2000**

REMARKS

By this amendment, Claims 34 and 63 have been amended to further clarify the invention. Claims 34-63 remain pending in the application. Favorable reconsideration is respectfully requested.

I. CONCISE SUMMARY OF THE INVENTION

Referring to Fig. 1 and paragraph Nos. **[0025]-[0027]** of the present specification, the present invention is directed to an active POTS splitter, method and system including the use of active splitter circuitry for connecting to a subscriber line to separate analog POTS signals from xDSL signals, and line test circuitry with a unique identity code associated with the active splitter circuitry for transmitting a test signal and the code on the line based upon an event or receipt of a test request signal.

A network operator providing a broadband service, for example xDSL (Digital Subscriber line), must be able to measure certain parameters for a wire pair that is to be used to deliver the service. This is necessary both to ensure that the service can be successfully provided and to enable the network operator to guarantee service quality. There are many advantages if the measurements can be performed on a two sided basis. This means that a signal source capable of transmitting test messages/signals, upon request, must be placed at the customer's end of the line. When delivering a broadband service, such as xDSL, without inband POTS, it is necessary to separate the analog POTS signal and the xDSL

signal from each other at both the CO (Central Office) and the CP (Customer's Premises). The results of applying a test message/signal to the line at the customer's end are measured at the CO (Central Office) end. The present invention provides an active POTS splitter which includes this testing feature.

The present invention provides the incorporation of test functionality for the line between the CP and the CO, or ONU (Optical Network Unit), with an active splitter design, for example, implemented on a single chip. This enables two-sided measurements on the line, both during installation and during operation. The measurements are performed at the CO end upon request, or when the test device automatically sends a test message signal. In this way there is no need for field technicians at the CP side. A unique identity code is transmitted to the CO each time a test is started, or on receipt of a request from the CO.

In a typical application of the present invention, a customer calls a Customer Service Department and requests xDSL-service. The CSD tells the customer that they will send him/her a test device, in other words, the active POTS splitter with line testing functionality, to check the quality of the line. When the customer receives the POTS splitter, he/she can install it simply by inserting it in the telephone jack socket. It is then possible to perform measurements on the line from the CO. The results of these measurements can then be promptly sent to the customer. It may then be possible to deliver the xDSL service the next day or, alternatively,

after some changes are made to the network. The test circuitry and POTS splitter of the present invention can be inexpensively produced.

II. The Claims are Patentable

The rejection of Claims 34-63 was sustained by the Board of Appeals in their decision mailed March 30, 2006. The analysis of the Board was directed primarily to representative Claim 34 (see pages 2 and 3 of the decision) since Appellant's Brief addressed the claims together as a single group.

Applicants studied the Board's analysis and amended the claims based thereon. Specifically, the Board noted that Claim 34 did not positively recite that the line test circuitry is located at the location of the customer. Further, the Board pointed out that the features of the testing were also not positively recited in Claim 34. Based thereon, the Board sustained the rejection based upon the position that the Scholtz et. al. reference taught "some form of testing."

The Scholtz et al. patent is generally directed to a telephone handset for testing the transmission quality of a local loop. The telephone handset includes a connector configured to connect to the local loop at, for example, a junction box. A low-pass filter circuit is electrically interposed between the connector and operational circuitry of the telephone handset. In operation, the low-pass filter is designed to pass (substantially undisturbed) electrical signals within the POTS frequency band from the connector to the operational circuitry. In the same way, the low-pass

filter is designed to substantially block the passage of electrical signals above the POTS frequency range (e.g. xDSL signals). In this way, the low-pass filter blocks the introduction of high frequency signals, which may otherwise generate intermodulation products within the audible range, from reaching the operational circuitry of the testing handset. A device may be provided for detecting the presence of xDSL signals on a local loop. Here, at least one band-pass or high-pass filter is added in parallel with the low-pass filter. The output of the at least one band-pass or high-pass filter is then analyzed to determine whether an xDSL signal is present within that frequency band (defined by the at least one band-pass or high-pass filter).

So, as is clear from a through review of the Scholtz et al. patent, any testing performed by the telephone handset and technician in Scholtz et al. is specifically concerned with filtering out "high frequency signals" such as xDSL signals so that the quality of the POTS signal on the line may be tested, e.g. "by ear." In other words, there is no test signal provided for measuring quality parameters relating to xDSL transmission on the subscriber line.

Each of the independent claims now positively recites that the line test circuitry is located at the location of the customer, and that the test signal is provided for measuring quality parameters relating to xDSL transmission on the subscriber line, as helpfully suggested by the Board of Appeals.

There is simply no teaching or suggestion in the cited reference to provide the combination of features as claimed. None of the other cited references makes up for the deficiencies of the Scholtz et al. reference as discussed above. Indeed, it would be contrary to the very teachings of Scholtz et al. to filter out such high frequency signals, to then add the capability of testing for high frequency transmission quality.

Accordingly, for at least the reasons given above, Applicants maintain that the cited references do not disclose or fairly suggest the invention as set forth in Claims 34, 46, 49 and 63.

It is submitted that the independent claims are patentable over the prior art. In view of the patentability of the independent claims, it is submitted that their dependent claims, which recite yet further distinguishing features are also patentable over the cited references for at least the reasons set forth above. Accordingly, these dependent claims require no further discussion herein.

III. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. An early notice thereof is earnestly solicited. If, after reviewing this Response, there are any remaining informalities which need to be resolved before the application can be passed to issue, the Examiner is invited and

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respectfully requested to contact the undersigned by telephone to resolve such informalities.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 this 30th day of May, 2006